

A NEW SPECIES OF GEKKONID LIZARD, GENUS *DIPLODACTYLUS* (GRAY), FROM THE SOUTHERN INTERIOR OF WESTERN AUSTRALIA.

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The morphological characters associated with the digits of gekkonid lizards are almost invariably used at the intergeneric level of study and commonly referred to as "generic characters." In the Australian genus *Diplodactylus*, however, there is an extremely wide variety of digital types which appear to be best utilized only in differentiating between the species. Within the genus there is a gradual trend in the shape and scalation of the digits from short and depressed with large subapical plates and greatly enlarged transverse subdigital lamellae (as exhibited by *spinigerus* and *strophurus*) to long and slender with slightly enlarged subapical plates and granular inferior surfaces (as exhibited by *alboguttatus*, *squarrosus* and *stenodactylus*). The species of the former extreme primarily occupy an arboreal habitat and are commonly found at night on the extremities of low trees and shrubs. The species of the latter extreme are found on the ground almost without exception. It is interesting to note that *Diplodactylus vittatus* possesses an intermediate type of digit between the two previously mentioned extremes and is found on the ground and not infrequently on vegetation. The wide variety of digital types found in *Diplodactylus* has probably been one of the major factors for the success of the genus in occupying the many different habitats throughout Australia.



Fig. 1.—A ventral view of the distal one-fourth of the fourth toe of the holotype of *Diplodactylus mairi* showing the extremely small subapical plates and inferior conical granules.

In the collections of the Western Australian Museum (W.A.M.) and the Department of Zoology of the University of Western Australia (U.W.A.) are a number of specimens from the southern interior of Western Australia which exhibit a peculiar type of digit yet unrecorded in *Diplodactylus*. The most striking features

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of this population are the extremely long slender digits, minute subapical plates and numerous conical subdigital granules. The population is described as a new species in honour of Dr. A. R. Main of the University of Western Australia who collected the holotype and who has helped me accumulate a large part of my data on Australian geckos.

Diplodactylus maini sp. nov.

Holotype: R12242 (W.A.M.). Collected 10 miles south of Queen Victoria Spring (33 miles north of Zanthus), Western Australia, by A. R. Main on October 2, 1956.

Diagnosis: *Diplodactylus maini* differs from all other members of the genus in possessing long slender digits with extremely small subapical plates (Fig. 1). The subapical plates are not obviously differentiated from the subdigital granules as they are in all other species of the genus.

Description of the holotype: Head convex; eye very large; snout short; rostral quadrangular, slightly more than twice as wide as high; dorsomedian rostral crease absent; nostril large, surrounded by first supralabial, rostral, two large supranasals and two small postnasals; anterior supranasal larger than posterior, meets counterpart on midline (internasal absent); scales immediately posterior to



Fig. 2.—A dorsal view of the holotype of *Diplodactylus maini* showing the colour pattern.

supranasals enlarged; scales of snout conical, 12/11 (left and right sides respectively) between postnasals and preocular granules; supralabials 8/8; thirty-four scales between centro-lateral margins of orbits (excluding those of dorsal eyelid); 6/6 spinose scales on posterior border of dorsal eyelid; mental lanceolate, slightly longer than broad; infralabials 9/10; scales bordering mental and infralabials slightly enlarged and flattened, gradually grading into small conical granules of throat region; external ear opening a small diagonal slit at level of angle of jaw; dorsal surface of head and body covered with small conical scales giving a somewhat beaded appearance; dorsal body scales equal size of small cycloid imbricating ventrals; limbs covered with imbricating cycloid scales, those of ventral surfaces slightly larger; digits long and slender, slightly angulate; subdigital surfaces covered with small conical granules; 15/15 conical granules covering inferior surface of fourth finger; 20/20 conical granules covering inferior surface of fourth toe; subapical plates extremely small, only slightly larger than subdigital granules (Fig. 1); nail short, strongly curved, not projecting distally beyond sheath; tail covered with flat square imbricating scales forming definite annuli; scales of dorsal surface of tail slightly smaller than subcaudals, twice as large as those covering dorsum of body; sex—female; cloacal spur replaced by obscure scales.

Dorsal ground colour yellowish-white; snout and inter-orbital regions covered with irregular brown spots; brown postocular reticulation meets counterpart on nape; dark brown reticulation of dorsal and lateral body surfaces encompasses yellowish spots which mid-dorsally become larger and more irregular (Fig. 2); reticulation of dorsum continues on to limbs and tail, very heavily concentrated on latter; throat and ventral surfaces of body and tail immaculate white, devoid of chromatophores; ventral surfaces of arms and legs sparsely covered with brown chromatophores; chromatophores heavily concentrated on palms, soles and digits.

Snout-vent length 46.0 (all measurements are given in millimetres); length of tail (unregenerated) 44.5; length of snout 4.6; head width 8.1; head length 12.0; diameter of orbit 3.5; distance between eye and ear 3.8; axilla to groin 21.0; length of fore limb 17.0; length of fourth finger 3.0; length of hind limb 23.0; length of fourth toe 4.7.

Variation: In addition to the holotype, *Diplodactylus maini* is known from the following specimens: (a) Kulin (R4183—W.A.M.), (b) Newman Rock, 88 miles east of Norseman (two specimens—U.W.A.), and (c) three specimens without locality data (U.W.A.). These specimens agree with the holotype in all important characters and exhibit the following variation: rostral slightly less to slightly more than twice as wide as high; rostral crease absent to completely dividing rostral shield; postnasals two to three, avg. 2.3; nine to twelve, avg. 10.2, scales between postnasals and preocular granules; supralabials seven to nine, avg. 8.4; twenty-seven to thirty-two, avg. 29.8, scales between centrolateral margins of orbits; three to five, avg. 4.2, spinose scales on posterior border of dorsal eyelid; mental slightly broader than long to slightly longer than broad; infralabials

eight to eleven, avg. 9.5; external ear opening a small diagonal slit to moderately large and round; dorsal body scales smaller to slightly larger than ventrals; thirteen to sixteen, avg. 14.6, conical granules covering inferior surface of fourth finger; eighteen to twenty-four, avg. 20.0, conical granules covering inferior surface of fourth toe; males possess single greatly enlarged dorsolaterally projecting cloacal spur posterior to limb insertion, a slightly enlarged scale may be present at base of spur; preanal pores absent; brown reticulation of sides of body encompasses numerous small white spots; reticulation of dorsum may be completely absent from vertebral region or encloses four irregular but distinct white spaces.

A single specimen from Warburton Mission (U.W.A.) is tentatively assigned to *Diplodactylus maini*. This juvenile male exhibits the following characters: rostral twice as wide as high; rostral crease one-half height of rostral; 3/3 postnasals; 11/12 scales between postnasals and preocular granules; supralabials 8/8; twenty-five scales between centrolateral margins of orbits; 4/4 spinose scales on posterior border of dorsal eyelid; mental longer than wide; infralabials 8/9; external ear opening small and round; 12/11 conical granules covering inferior surface of fourth finger; 14/15 conical granules covering inferior surface of fourth toe; subapical plates larger than inferior conical granules; cloacal spur single; two preanal pores, separated on midline by four scales; dorsal ground colour reddish-brown; dorsal body reticulation very coarse, absent from vertebral region.

The specimen from Warburton Mission differs from typical *Diplodactylus maini* in possessing a smaller number of inter-orbital scales and fourth finger and toe inferior granules, slightly larger subapical plates and preanal pores. The differences in colour and colour pattern can probably be attributed to age as in many species of *Diplodactylus* the young are extremely different from adults. It is possible that this specimen represents an undescribed central Australian species closely related to *maini*.

Relationships: The affinities of *Diplodactylus maini* appear to lie within the Western Australian group of species, *alboguttatus*, *squarrosus* and *stenodactylus*, which exhibit long slender digits with granular inferior surfaces. In addition to the unique condition of the small size of the subapical plates, *maini* can readily be distinguished from *squarrosus* and *stenodactylus* in that the rostral shield borders the nostril (the rostral is excluded from the nostril by the enlarged anterior supranasal in *squarrosus* and *stenodactylus*). *Diplodactylus maini* appears to be more closely related to *alboguttatus* from which it differs in the following characters: (a) eighteen to twenty-four, avg. 20.0, inferior fourth toe granules (thirteen to seventeen, avg. 15.8, in *alboguttatus*), (b) a single enlarged cloacal spur in males (two enlarged spurs in *alboguttatus*) and (c) preanal pores absent in males (present in *alboguttatus*).

The digits of *Diplodactylus maini* are very similar to those of *Rhynchoedura ornata* and superficially like those of *Lucasius damacus* (both genera are monotypic and endemic to Australia). A detailed examination of the skeletons and external meristic and

measurable characters of the three species reveals such a large number of differences that their digital similarities are probably due to parallelism and are therefore homoplastic but not homologous.

Remarks: The holotype of *Diplodactylus maini* was collected at night on unblown yellow sand. The two specimens from Newman Rock were collected at night in a eucalypt woodland.

FROM FIELD AND STUDY

A Record of the Euro near Toodyay.—Barker (*W.Aust. Nat.*, 6, 1958: 154) records the occurrence of the Euro (*Macropus robustus*) in the Mokine area. I wish to add to his observations by reporting the sighting of four Euros at Culham in September 1960. The animals were all a dark brick red colour. One of them appeared sick, it was extremely thin and fell over several times as it hopped away.

The country where the sightings were made, is typical Wandoo breakaway, similar to that described by Barker at Mokine.

—P. McMILLAN, Guildford.

Glossy Ibis in the South-West.—The last published record of this species in the South-West (*W.A. Nat.*, 6: 55 and 6: 150) is of a single bird in the Fremantle area during November 1956 and January-February 1957. There are only half a dozen other published records for the South-West.

On February 6, 1962, I saw a Glossy Ibis (*Plegadis falcinellus*) at a backwater of the Peel Inlet near the area known as "The Chimneys." It was perched on a rock in company with Little Pied Cormorants (*Phalacrocorax melanoleucos*) and a few White-faced Herons (*Notophoxyx novae-hollandiae*), and Eastern Curlew (*Numenius madagascariensis*) were feeding in the close vicinity.

R. H. Stranger and Brian Leaky saw two Glossy Ibis flying over the northern section of Lake Joondalup (2½ miles north-west of Wanneroo township) during March 1959.

—A. A. BURBIDGE, Mandurah.

The Crested Pigeon Breeding near Northam.—The following item is a further contribution to the documentation of the gradual extension southwards of the Crested Pigeon (*Ocyphaps lophotes*). On September 8, 1961, I found a pair of Crested Pigeons nesting in a needlewood tree (*Hakea preissii*), at Seabrook, 4 miles S.E. of Northam. There were two eggs in the nest and these were still unhatched on September 20. When I next visited the nest, on the 25th, both eggs had hatched and subsequently the parent birds were observed with the young ones on several occasions.

Although Crested Pigeons have been seen in this area for several years, this is the first time I have recorded them nesting here.

—A. L. MILHINCH, Seabrook, via Northam.

Spread of the Crested Pigeon.—The southward movement of the Crested Pigeon (*Ocyphaps lophotes*) is further indicated by the following records:—